

How the Scientific Way
of Looking at Things . . .
Helps us in our Work.

An Address to the Nursing Staff of
the Retreat, York,

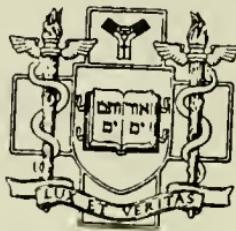
delivered February 8th, 1908, by

T. S. CLOUSTON, M.D., L.L.D., F.R.C.P.E.

Physician Superintendent to the Royal Edinburgh Asylum for
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With Dr. Clouston's best wishes.

How the Scientific Way of Looking at Things helps us in our Work. .

WE all know how the way we look at things helps us in understanding them, and that we may see or do the same thing with interest and intelligence or without concern or advantage according to the state of mind we are in. I went to see a Motor Show last week and at first looked at the cars in a vague unintelligent way, but soon met a friend who knew motors both theoretically and practically. He explained to me their principles of construction, the differences between the various kind of cars and the way in which speed and safety had been provided for in this delicate and complicated mechanism. My whole state of mind was soon changed and I became mentally alert and most interested. I saw that I had before me some of the most intricate problems that the engineer and the craftsman ever had to solve. I was amazed and delighted at the ingenuity exercised in their planning and construction. I had seen hundreds of cars before and had ridden in many but had never realized the real interest a motor can give one. I was so bitten that for the first time in my life I wanted to have one of my own. I had in fact got hold of the principle of the motor.

I propose to-night to suggest to you the application of scientific principles in doing our daily work, which, I believe, would help us all in nursing and caring for the mentally unsound. It is usually said that we northern people—North of England and Scottish—have the power of understanding and applying principles better than our southern brethren, who like things put to them in a concrete and practical form. It is certain that some of us are more fond of discussing questions of principle as opposed to practical details and concrete things that we can see or hear or touch. Officials in Mental Hospitals

all have rules laid down as to how they should do their work. We northerners are, I think, more inclined than people in the South to look into the reasons of those rules, to ask, in fact, on what principles they are based. The chief principles on which the modern treatment of the unsound in mind are based derive themselves from religion, morals, humanity, public policy and modern Medical Science.

Speaking in the York Retreat I should have liked to say something in regard to the religious and humanitarian principles which guided—I should rather say impelled—its founders to set it up like a lamp in the surrounding darkness of England 115 years ago. Godliness in that case indubitably resulted in much gain to mankind. The subjective fear of God translated into the objective duty of helping man in his direst extremity, when his God-like faculties of reason and will were impaired or destroyed, never received a better illustration. Though brought up under a different religious system, I have always had an enthusiastic admiration for the Society of Friends and their methods of helping humanity in its needs. That fact took away any hesitancy in my complying with my friend Dr. Bedford Pierce's request that I should address you this evening. Indeed I felt proud to be asked to help, even in an infinitesimal degree, the work begun here by William Tuke in 1792.

I shall confine myself to-night to the discussion of the light that Science throws on our rules, our environment and our work, and the help it gives us. Our work is a difficult one and our problems are often obscure. We need all the light and all the help we can get from every source. We need especially that stimulus to our own minds and that incentive to go on from day to day without discouragement, which a higher motive and a clearer light, such as scientific principles, can give. We need some principle which is more or less applicable to the

case of every patient we have to do with. We need something that will excite our interest in our work, that will make us ask questions as to the cause of our patients' symptoms and that will explain many things that puzzle us. We all of us need to be made to think. We need something that will take us frequently out of the mere daily routine and hum-drum of our Asylum life. Thereby many of us may be made to feel the joy of finding out things for ourselves, of original ideas, and thus of actually advancing our department, and of leaving the world of mental hospital treatment better than we found it. All these things, I believe, the scientific spirit will accomplish for us, at least in some degree.

The Scientific Spirit and its Definition.

It does not need a College education or a long special training to get into the scientific spirit. Any fairly intelligent man or woman in a Mental Hospital, who honestly tries, may acquire it, in some degree at least. The whole education and training for the Medico-Psychological certificate is in this direction, and I can speak of this from a very prolonged experience of the old and new methods of educating nurses, and of the enormous improvement which the new system has produced in the more intelligent and earnest of our staffs. Those of you who have been long in the service can, and should be in many ways the teachers of even our young doctors, for you see far more of the patients than they do and should therefore know more about them in certain ways. I was much impressed the other evening when, at Morningside, we were giving a send-off to one of our young doctors who had got promotion, in his speech he told the nurses and attendants how much he had been helped and how much he had learned from them during an original investigation of a

very difficult kind, into the nature and treatment of General Paralysis, which he had been making. Without the head nurse of the Hospital he said he could not possibly have attained the brilliant results he had accomplished. This was not done merely by the keeping of accurate charts and records, but by the nurses and attendants entering into the scientific questions at issue and suggesting original ways of getting over difficulties, as well as pointing out sources of error. He maintained that some of the attendants and nurses were quite as original-minded as doctors, and with some guidance, quite as essentially scientific in spirit. The result of that investigation has been—taking the work of the doctor and the nurses together—that a new light has been thrown on the cause of General Paralysis and a prospect opened out of even curing this hitherto incurable disease. I used to admire exceedingly, while going my rounds, the miles of beautifully kept charts taken after and before the serum injections—all done by the nurses. In the case of one patient 577 accurate returns of temperature, pulse, mental state, etc., were taken and recorded.

If you want a definition of what the spirit of modern Science is when applied to our work, I would say that it means keenness and accuracy of observation and a careful recording of the facts, a strong curiosity to get at *all* the facts of the case, a perpetual questioning what is the meaning of mental and bodily symptoms and what causes them, a constant comparison of the symptoms of the insane man or woman with states of health, a constant attempt to find out what is the cause of relapses or improvements in our patients, and finally unceasing attempts to apply the physiological and psychological lessons you have been taught to the cases of individual patients under your immediate charge. Science is ever asking questions whether they can be answered or not. It shows us on what points we need light.

The scientific view of a case and of an individual patient is calming and steadyng to one's own mood and disposition, as well as being interesting. It lifts one above petty annoyances. It gives one a sense of superiority and power and it checks the bad but human instinct of reprisals. It teaches us the philosophy of the adage that "a soft answer turneth away wrath." It enables us to eat of the tree of knowledge in a good sense. It prevents us doing certain evil things that we might be inclined to do. It makes certain of our work interesting that would to the natural man be repulsive, just as the scientific spirit makes the dissecting room a great interest to the medical student. Many of our patients are not loveable, but the scientific spirit can make every one of them interesting. If we feel apathetic, or irritable, or run down, we can often too by turning the scientific search-light inwards on ourselves see the cause of those feelings.

The Science of Bright and Beautiful Environments.

I now wish to apply in a practical way some of the scientific principles which will help us in our work or make it more interesting. First let us look at the environments of a modern Mental Hospital. The wards of our modern Mental Hospitals are made bright, cheerful and artistic by paint, flowers, much window space, suitable furniture, pictures and other decorations. Their grounds are made attractive by careful planting and the artistic disposal of shrubs and flowers. Why is all this? Can the scientific spirit give us its true interpretation and explain its effects? I think it can. It is one of the best known physiological laws and one of the most practical importance that the portion of the human brain through which the intelligence and emotions are exhibited

receives constant stimulation through messages from the senses, the eye, the ear, etc. Those messages stream in during the waking hours and literally write themselves on the brain cells. It was through the constant stimulation of the brain by those messages that the mental power and the emotions were first developed in childhood, and it is they which have really been the cause of the growth of the mental power in childhood and youth. A child born without sight or hearing remains virtually an idiot through the want of those sense stimulations. The brain cells are so far analogous to a printed book, absolutely full and covered over with small type impressions. It is of the highest importance from the beginning that those impressions from the senses to a child's brain should be of the right sort and that the printing should be clear. Some impressions produce joy, others produce depression. The great thing to remember is that every impression, good or bad, leaves its mark. Now we have among our new patients nearly one half who labour under depressed states of mind. The scientific inference is perfectly clear and obvious, that all such patients should have streaming into their brains through the senses pleasurable and healing impressions to counteract and fight the morbid mental depression. But it is not only the depressed who are the better for those pleasant impressions. The excited and the enfeebled in mind are also benefitted by them, and the whole Staff derive benefit. They in fact are medicine administered to the brain through impressions from the senses. None of us have any idea of the gloomy and depressing effects of the wards of some of the older asylums about 50 years ago. You see that the indications of the sciences of Physiology and Psychology are thus used to provide bright environments for the benefit of our patients and they help us to understand why this is done. What a marvellous piece of mechanism the human brain is to be able to

receive and to hold those countless impressions ! No book however large or closely printed can compare with it. It is a whole library.

Scientific View of Work, Amusement, etc.

Take another example of the scientific explanation of one of our constant duties. Why are so many patients benefited by work, amusements and walks in the grounds and why have those means of treatment become universal in all Mental Hospitals ? Science tells us that the brain has one constant characteristic. It is that during waking hours there is a necessity for the brain cells to be active, to work in some way. They *must* "energise" as we say in Science. Now it is most important that this working should be of the right kind. The brain cells may work rightly or work wrongly. Work exercises the muscles, promotes circulation and improves digestion. When the brain cells are working wrongly a man or a woman is thinking of disagreeable things, is feeling unpleasant emotions, is selfcentred and is morbid. Work has the effect of shunting the mental action which we have to face whether we will or not, on to the right line of rails and so producing a healthy condition of mind and body. Amusements of the right sort have the same effect and hence the value from a scientific point of view of both work and amusement.

Order, Punctuality, System, etc.

Then to take another instance : What is the scientific explanation of the good effects of order, punctuality, system and method in the work of our wards and in the treatment of our patients ? Why should we all get up at a certain hour, go to bed at another hour, take meals at given times, arrange work and amusements, so that the whole day is filled up like a chess-board by squares, each one with appropriate work or

amusement or rest ? We all know what good this does to our patients—and to ourselves for that matter—and there must be a scientific explanation of that fact. We must to a certain extent go back to the primitive facts of Nature to explain the effects of order and time on the brain working of man. The sun, the moon and the stars rise and set at fixed times, the tides are absolutely punctual in their recurrence and those great timekeepers have indelibly affected man during his slow evolution during the ages. The heart and the breathing are rhythmical in their action, sleep and waking succeed each other at regular intervals, and the brain of man, even in its mental part, is periodic in action and is always benefited by a methodical, punctual disposal of time. All life is more or less rhythmical. In the mentally unsound the whole brain is often wanting in force of working and tone, and it is very easy to tire any one part of it by over-work of that particular portion. Punctuality and order and the coming of different duties at different hours fulfils natures great laws of sequence and rests and employs different parts of the brain and different faculties of the mind at regular times, with the result that the working of the whole becomes more normal and healthy. This order and method and punctuality has a steadyng effect on the mental faculties. It is a law of our being that we must be orderly to some extent in our lives, while for the mentally unsound order is a speacially healing process. It is one of the chief symptoms of many of our patients that they have lost this sense of normal time and order, and we must by our Hospital arrangements endeavour to restore it back to them. We all know that the higher civilized life has necessarily for its very existence adopted many conventionalities as compared with the primitive savage. This conventionality largely means orderliness of life and is one of the essential characteristics of the developement of the civilized and sane man or woman.

Toxins and Microbes.

Then take another example of the scientific explanation of our patients' symptoms and their proper treatment. Modern Medicine has lately discovered that we are subject to be invaded by all sorts of microbes and by many kinds of poisons that are adverse to the general health and to the brain soundness. If the skin does not act there is something kept in the system and in the blood which ought to be got rid of. So with the kidneys and especially with the stomach and bowels. The brain becomes thus poisoned by microbes and by toxins, as we now call such poisons, which ought to be got rid of or counteracted in some way. Hence we must see that the skin in the case of our patients is kept acting by warm baths, by the perspiration produced by exercise and dancing and gymnastics, that the kidneys are kept in proper action, and especially that the bowels are properly attended to. To put a full meal or improper kind of diet into the stomach of a patient who from mental inattention has not masticated the food he eats is really to introduce a poison, which, through the blood, reaches the brain, and may produce mental excitement, depression or delusions. We doctors are always suspicious now that certain cases of hallucinations are "toxic" in origin and that certain delusions, especially those of suspicion, have some such bodily cause. In lecturing to my students in the Edinburgh University I always lay down the principle "Try and find out a bodily and especially a toxic cause for the delusions and hallucinations of your patients." We, at Morningside at least, now believe that General Paralysis--that most terrible of all the brain diseases we have to treat—is caused by poisons and microbes. A delusion in a patient seems an obscure thing that we cannot grapple with. We know how useless it commonly is to try and argue with a patient about his delusions or to convince him by reason that

they are unreal, but if we think of them as being toxic and bodily in origin how satisfactory it is that we can attack them by a dose of Calomel, a Turkish Bath or an injection of an anti-serum. Dr. Lewis Bruce last week in his Morison Lectures in Edinburgh gave us most interesting and important information, the result of his years of work as to how the blood is affected in cases of mania with confusion, and as to how toxins and microbes give its character to that disease.

Walking and Rest.

Then to take a scientific view of a still simpler matter. Why does a good smart walk often soothe and quiet a patient suffering from certain forms of Mania ? Such a walk means an output of work by the brain and by the muscles. Now in many cases of Mania the brain is morbidly active and is putting forth constant, unnecessary and hurtful work. The patient is restless, shouts and screams, to his detriment. By turning another tap on, as it were, and turning this useless energy into the muscles, it courses in a healthy direction and you get rid of it thereby in a useful way. When you have the cistern at the top of your house with the ball-cock not working, so that the water is overflowing and so being wasted and doing harm, if you open the taps in the laundry and scullery and use the water for washing your dishes and your clothes, surely it is an improvement on this waste. So with walking and working to some of our patients. Other patients again need rest in bed to conserve their energy and restore their exhausted and poisoned brains cells, just as you and I need a long rest after a fatiguing walk. I used at one time to walk some of my patients too much because I had not got hold of the true scientific principle of the matter.

Law of Association and Suggestion

Then let us look at another series of mental symptoms, how they arise, how they can be explained and how they could be prevented or treated. There is a law of brain and mental action, called the "Law of Association and Suggestion," that is, one idea or one action is connected with and suggested by another and is apt to follow it. You all know that one of the most terrible symptoms any patient can suffer from is when the natural love of life has gone and when a strong desire to put an end to life comes in its place. Our suicidal patients certainly imply greater responsibility and care than any other class. Now you know that a suicidal patient or one not very suicidal, but with a tendency thereto, often has a suggestion of suicide put into his mind by seeing a knife or a bath full of water or an open window or a window cord accessible. This takes place through this law of suggestion of which I have spoken. So a ward which is gloomy, where the nurse obtrudes and rattles her keys too often, where there are bars to the windows—such things suggest to the patient all the time that he is insane, that he is under care, and therefore such things should not be obtrusive in our wards. I remember having a patient who saw the joiner working, mending a patch in the woodwork of the floor and saw him lay down his chisel. By this law of suggestion she took it up, put one finger on the floor and chopped off a piece of it, not with any suicidal intent but purely by seeing a sharp chisel, the obvious suggestion of which was to cut something or other. Why is it so important that a nurse and a doctor should always be optimistic about the recovery of their patients, that they should perpetually be telling their patients that they are going to recover, that they must and will recover? We know the good effect of this on many of our melancholics. It is in fact by this perpetual suggestion to their minds that the idea of recov-

ery is brought before them and comes at last to be believed by them. A most interesting book has lately been written by a Swiss physician, Dr. Dubois, in which he tells how he treated and cured many of his patients by this process of continual suggestion, which was made from without by him at first, and then became suggestions of recovery in the patient's own mind—"auto-suggestion," in fact—with the very best results.

Sleep.

Why is sleep almost always good for our patients and continued insomnia bad for them? During the condition of sleep the brain cells are rested and re-nourished by the blood after the day's work, while the blood vessels are smaller in size, and the whole contents of the cranium are undergoing a period of rest and recuperation. This is healing to the diseased brain in a very high degree, and we therefore try to procure sleep by every means in our power. When we examine the brain cells of a dog that has died from over exertion and want of sleep we see that they are pale and empty of solid contents, a state of what we call "chromatolysis." So when a patient dies of maniacal or melancholic exhaustion the brain cells are in this condition from want of rest and sleep, and over exertion.

Appetite.

Many of our patients have no natural appetite for food and many of them refuse it with great obstinacy. Why is this? There are various causes for this symptom, but some of them are, that the processes of nutrition of the body are too sluggishly performed and that there is no *call* to the consciousness for new blood with plenty of oxygen and nourishment in it. Another cause is that the stomach and intestines are apt to be infested with those hurtful microbes and poisons of which I have spoken. Instead, therefore, of arguing with the patient we give a laxative, we give appropriate tonics like Quinine

and the Mineral Acids, and we send the patients out in the fresh air, with or without brisk exercise according to their strength. The appetite is the conscious cry of the system for more nourishment. In those cases we create a craving for nourishment, and its signal flag to our consciousness is restored appetite. There is no surer sign of mental improvement in most of our patients than a restored appetite for food. It is therefore a highly scientific proceeding to create by any means a relish and desire for food.

Insane Obstinacy and Resistiveness.

One of the most trying of all the symptoms which our patients manifest is an insane obstinacy, a resistiveness, which no verbal persuasion can overcome. How is this to be explained on scientific principles? The ordinary explanation follows the lines of common experience with sane people and attributes such obstinacy and resistiveness to a voluntary act on the patient's part in order to annoy the nurse and the doctor or to a perverseness which the patient can help if she likes. It is certainly not so. It may either result from an insane delusion that you are going to hurt the patient, that severe evil consequences will flow from the action you wish her to do, or from a purely automatic condition of brain in action, during which every muscular action causes pain. There is no will power and full consciousness is to a large extent impaired in many such cases. Any of us who have ever had to train a young horse or a young dog or have caught a wild animal and have tried to get it to eat, know the curious condition of obstinacy and resistiveness that such creatures will exhibit from no real viciousness at all. You must get over it in those cases by patience, by persuasiveness, by skill and by winning the confidence of the animal. Such are the true means by which this insane obstinacy or resistiveness in our patients

ought to be met and treated. If violent or too forcible means are tried you merely aggravate the symptom. I have trained many young sporting dogs and soon found out that the whip is the very worst means of getting over obstinacy with most of them. The last one I trained scarcely ever needed the whip. It saved time and temper to use one's own stronger mind to study and overcome the animal's weaker mind. You must establish confidence that you are not going to hurt the animal. It is commonly an unsounded fear that you are going to do something painful which in the animal or in the insane patient produces the obstinacy. You must, in fact, in both cases, study the psychology of the subjects you have to do with and then supply scientific principles in the work you have undertaken.

Applying Scientific Facts in Nursing as to there being distinct Mental Faculties and Instincts.

You have been taught in your Red Book and in your Lectures that there are various mental faculties, each distinct from the other—reasoning, emotion, will, memory, &c. This knowledge can and should be constantly applied in our work in the wards. You ask a patient "Who am I?" and he says "Jesus Christ." This delusion indicates defective reasoning power. We attribute this to bad brain working, and not to purely mental disturbance. Every one who has ever dreamed has in that way suffered from the grossest delusions, simply because our brains are at the time asleep and those mental faculties changed in their manifestation, some of them being active, such as imagination; others in abeyance, such as reasoning; consciousness especially being dormant. You ask another patient "What had you for breakfast this morning?" and she replies "beefsteak" when

in reality she had coffee and bread and butter. You see that her faculty of memory is defective. This may arise in two ways, either from the want of power on her part to pay attention to your question, or from a real loss of the faculty of memory. In the first case you have merely to repeat the question over once or twice and vigorously to direct the patient's attention to it, and she will answer correctly. In the second case she is quite unable to do so, however strongly you put it to her. It is always interesting to analyse what faculties are weakest in our patient's minds.

Why Affection Changes.

One of the saddest things frequently noticed among the insane is a change in the affections towards relations. The strongest love in the world, that of a mother towards her children, is often so blunted that a mother will never ask for her children or care to see them, that brothers and sisters will take a strong antipathy towards each other, and that old friendship will be changed into suspicion, and even hatred. I once went into our visiting room and saw a mother brought into the room to see her young baby, the sister of the patient having the baby in one arm and a bag of cakes in the other hand. The patient seized the cakes and began to eat them, taking no notice whatever of her child. You know that in certain puerperal cases the mother's natural affection for her new born child, the strongest thing in nature, may be entirely lost and a homicidal desire against the baby take its place. Many cases of infanticide by the puerperal mother are recorded. One of the orders we always give in such cases is "Take away the child from the mother, don't let her see it." Now the application of Science throws some light on this terrible fact. The affective qualities, that is, the power of feeling in various ways, are entirely distinct from the reasoning power and the memory. The power of feeling depends

on the sound working of certain parts of the brain. When the brain is poisoned or diseased the vehicle of this feeling may become so altered in its action that it may be paralysed, and affection cannot be exercised, just as the leg or arm may be paralysed in regard to its movement. Or the brain centres of affection may be so irritated that their action is reversed from the normal, and you see what is analogous to convulsions in the muscles, an opposite action altogether to the normal. No intelligent nurse, applying this scientific knowledge to her work, could feel anything but sympathy for a woman in this state. Any feeling of blame would be cruel as well as unscientific. Who in his senses would blame his watch for keeping bad time when he knew that some dust had got among the wheels? The brain is a piece of machinery, which in puerperal and other cases has gone wrong from a poison that has got into its cells.

Will and Self Control weakened.

The highest mental quality of all is the will, which being exercised in the control of life means "Self-control," and that is the practical and important side of morals and religion. The common popular idea is that a man or a woman's will power, his power of regulating speech and conduct is absolute, is a faculty which is purely mental and does not depend on bodily or brain state. The law and society hold this view strongly. We who have to do with patients and mental hospitals know that this will and self control are just as much dependent on the brain soundness as are the memory, the reasoning or the power of feeling. We see our patients exercise this will power in innumerable ways that are morbid because their brains are in an unsound condition. It is very hard to believe that a woman uses bad language, is dirty in habits, will not do what she is told, and does acts which would

be wicked and punishable were she responsible, just because a poison is circulating in her blood. We all see illustrations enough of what such a poison will do to impair the will power and self control when we see a drunk man or woman and know the conduct of most persons who exceed in drink. We must every day conscientiously try to realize the scientific view of the will when we meet with abuse, suspicion and violence of conduct in our patients.

There is one scientific aspect of will power which we must realize and endeavour to utilize for our patients' benefit, that is, the power of a strong sane will over a diseased, weak or perverted will. Having such a strong power of will is of great service to any nurse or any doctor. To be able calmly to dominate your patient by your own will power is the highest attribute of a nurse if properly exercised. To be able to preserve one's own power of self control unimpaired amidst abuse, opposition, obstinacy and violence is the very triumph of a scientific spirit in our work. Epictetus, the old wise Stoic philosopher, said, "No man can rob us of our will." We all need to say "No patient should rob us of our self control." With that power within us we could exercise a vast influence on our patients. We should endeavour to attain that calm state of mind described by Marcus Aurelius, the greatest of all the Stoics, who said, "Efface impression, stay impulse, quench inclination, be master of your inner self." He also says, "Forbearance is a part of justice," and we must all be just, for it is the secret of all sound rule over others.

There are no questions more interesting to the asylum nurse and doctor, or, for that matter, to the moralist or the lawyer, than those relating to self control. It has to do with obeying the ten commandments and with the very foundations of society. Control grows in a child as the brain

grows. I have known many children in whom it was arrested, such children showing no self control in consequence. There are "inhibitory centres" in the brain whose function it is to control the nervous working of other organs. By them the heart, for instance, can be stopped in its action, digestion can be arrested or the breathing suspended. Having this knowledge which we had acquired as to inhibitory nervous centres of those bodily functions, we apply it to explain what takes place in the mental centres in the brain, and find that such ebullitions of loss of control as irritability, sudden violence, some attempts at suicide, some erotic acts, some acts of stealing, may all be due to this loss of power in those centres. All sorts of medico-legal questions as to whether certain murderers should be held responsible arise out of the doctrine of the loss of power in the inhibitory mental centres in the brain. Paralysis of will power may mean a condition of stupor when no act whatever can be performed. Paralysis of the higher inhibitory centres may mean that the lower animal instincts can no longer be controlled. I am not surprised that moralists, lawyers and ministers of religion sometimes object to our modern scientific inferences as to the connection of self-control with brain soundness and the connection of immorality and crime with its unsoundness in many cases. But we do not for a moment say that man's responsibility to the law and to God is not absolute if the brain is in a sound condition. Control— inhibition—can be largely developed in early life by proper modes of education. If we could thus increase the self-control of mankind by a hundredth part we should thereby greatly diminish the crime and mental disease in our midst.

The brain view of self control is strongly supported by the effects of certain substances on the inhibitory power of those who use them. The chief of those are alcohol, opium,

cocaine and Indian hemp. Every one of those substances shows its first effect when taken in anything like undue quantity in lessening self control. It is the highest of all the brain qualities and the last developed from the point of view of evolution. But it gives way first under the brain effects of those substances. If any of those poisons are indulged in to an undue extent for any time, the inhibitory power in most persons is lost, and it is commonly most difficult to regain, even after their use is stopped. It is this destructive action of alcohol on human self control which largely causes the wholesale misery and degradation of our population who indulge in it to excess.

In certain forms of insanity self control is the first faculty to go and the last to come back. We have all had experience of the patient who is acute, clever and amusing, whose memory is extraordinary, whose feelings are often keen, but who lacks the one governing principle of self control. He can argue in the most subtle way, but can't abide contradiction. He can do work well for a bit but can't keep at it. The watch goes but the regulator won't work. Such cases are very hard for all of us to manage just because they are so acute intellectually and often strong in will power. Nothing but a scientific view of their symptoms helps one to understand them.

Our mental hospital experience should add much to the interest with which we study our fellow men and women in the world outside. Insanity is often exaggerated sanity. Suspicion is a most necessary protection in life. But exaggerated suspicion is a form of mental disease. High spirits are a delightful quality in our friends. The perpetual flow of talk of sub-acute mania is a trying form of insanity to put up with. Impulsiveness is a charming quality in some young folk. The impulses of our patients towards suicide,

disorder and violence are some of the most responsible symptoms of our professional work. Reticence gives power to a man in authority. The silence of some of our patients wears on our nerves.

You will bear in mind that I have not claimed Science as our only guide and help in our work. I only claim for it a chief place—a place that cannot be filled by anything else. It is in its very nature, too, a progressive force. It suggests an optimistic view of our work and produces an optimistic state in our own minds—that state which helps us all so much. It has done much for our work in the past, but that will be far exceeded in the future, when our knowledge of the human brain and mind, and their disorders, &c., shall have reached a point hardly realised even in our dreams.



